Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:	)	
	)	
Digital Audio Broadcasting Systems	)	
And Their Impact on the Terrestrial	)	MM Docket No. 99-325
Radio Broadcast Service	)	

To: The Commission

COMMENTS OF
Communication Center
Minnesota State Services for the Blind
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Introduction and Summary

These comments are being made on behalf of the Communication Center of Minnesota State Services for the Blind pursuant to a Further Notice of Proposed Rulemaking and Notice of Inquiry adopted on April 15, 2004 concerning Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service issued by the Federal Communications Commission, FCC. The Communication Center is the parent organization of the Minnesota Radio Talking Book Network, RTB. The RTB is this nation's first radio reading service, going on the air on January 2, 1969. The RTB is currently carried on 13 stations and 3 translators operated by Minnesota Public Radio. Additionally we are carried by 2 other public radio stations, and 2 commercial stations – all 17 stations and 3 translators carry us on FM sub-carriers, of which all but one are 67 KHz. The system serves over 9000 persons including most of Minnesota as well as the border areas of Iowa, Michigan, North Dakota, South Dakota, and Wisconsin. In addition, the Communication Center provides audio and Braille services to blind, visually impaired, physically and learning disabled Minnesotans, serving over 15,000 persons.

We, unfortunately, do not see a digital home for radio reading services in HD Radio's Hybrid Mode. There isn't the data capacity to serve our needs. Consequently, the Commission, public broadcasting, and commercial broadcasters need to do more to find and guarantee a digital home for this nation's radio reading services. Current protections for analog sub-carrier-based services need to be extended to the digital realm. We need immediate and thorough testing of "Extended Hybrid Mode" to try and find a home for reading services. Further, we believe that Section 255 of the Telecommunications Act of 1996 covers HD Radio receivers. In public comments, several commissioners have stated that they believe that HD Radio is an "interactive service." Further, we are aware of demonstrations of "buy buttons" and "coupon printing capacity," both of which are obvious hallmarks of an interactive service. Consequently, we believe that Section 255 of the Telecommunications Act does apply to HD Radio, guaranteeing disabled persons

access to this new set of services. With HD Radio in its infancy, now is the time to make this happen.

HD Radio has not been adequately tested with LPFM. We do not know what will happen with analog sub-carriers when digital LPFM stations go on the air. Analog sub-carriers can not suffer any further degradation, they are already fragile enough. If we are not able to find an obvious home in the new digital world, the FCC may need to consider rules guaranteeing reading services some sort of access, or barring that, allocating us some exclusive frequencies for our own use, such as relinquished paging frequencies. Finally, we do not believe that reading services should become a part of the formal EAS system, because of expense and complications, but we believe that we should monitor the existing system and give our listeners information about where to turn in times of emergency.

DIGITAL RADIO AND HYBRID MODE

Currently, HD Radio in the "Hybrid Mode" as implemented by all current radio stations, has no obvious home for digital radio reading services. It is presumed that such services could continue to broadcast on an analog sub-carrier until the all-digital mode of HD Radio is implemented. Because of the approximate 800 million analog radios in the U.S. and the desire by the Commission not to force people to have to replace analog radios, it will be many many years before the "All-Digital" mode of HD Radio will be implemented.

In its Hybrid Mode configuration HD Radio has the capacity to carry a high-quality 96kbps main signal or potentially two or more reduced fidelity audio signals. In addition, there is the capacity to carry some auxiliary data, but not enough capacity for a radio reading service. While National Public Radio's (NPR's) Tomorrow Radio Project has the capability to carry two or more reduced-fidelity audio channels, it is extremely unlikely that a broadcaster would be willing to reduce the fidelity of his main channel programming, and then allow the second channel which is carved out by Tomorrow Radio to be used by a reading service. All of this means that there is no obvious or easy digital place for us in the Hybrid Mode of HD Radio. Further, there is no guaranteed home for us in an all-digital system, which in any event isn't likely to happen for many years.

RULES GOVERNING EDUCATIONAL STATIONS

Section 73.593 governs the use of subcarriers by educational FM stations. Currently, a public station could not deny a current or future reading service an analog subcarrier in order to use his subcarriers for remunerative purposes. He doesn't have to use his subcarriers, but if he does so, to make money, he has to provide a subcarrier to a reading service, or find it an equivalent home elsewhere. It would be logical to extend these rules into an all-digital system. A public station would have dramatically increased ancillary capacity which they might want to use for other purposes, however, somebody needs to meet the needs of radio reading services, and noncommercial educational broadcast stations have historically been a good place for us to be. At a minimum, An all-digital system should guarantee radio reading services access to a 24kbps or 20kbps real-time non-preempted channel on public "educational" stations that plan to make money from their ancillary capacity.

EXTENDED HYBRID MODE

Next, there is the possible use of "Extended Hybrid Mode," to create the capacity to carry additional data or audio services. Because this extends the digital carriers closer to analog SCA's, interference with existing radio reading services is likely. Further, it would appear that iBiquity Digital Corporation has done little testing of the Extended Hybrid Mode and the NRSC has done none. iBiquity has admitted that this mode causes interference with some radios. Further, we have been told, but have been unable to verify that USADR and Lucent Technologies did testing of this mode in 1996 and found that there was substantial interference to a significant number of radios.

It seems safe to say that Extended Hybrid Mode will cause some interference with some existing radios. We don't yet know how much, and to how many. Nevertheless, it is also safe to say that many stations will not want to loose a portion of their audience to provide radio reading services and other services with a channel carved from main-channel audio, or one that causes interference to themselves and/or other stations. Consequently, it is unlikely that Extended Hybrid Mode will afford a means of providing a digital signal to radio reading services at this time. All of this means that the Commission must take more direct action to provide radio reading services with a digital future. Without such action, we can not see how radio reading services can benefit from the advantages of a digital world.

HD RADIO AND SECTION 255 OF THE TELECOMMUNICATIONS ACT OF 1996

Having said all of that, let's presume that by using multi-channel technology and/or Extended Hybrid Mode capacity, that space could be found on stations for the digital broadcast of a radio reading service. Then, presumably, a blind or visually impaired listener would have to do something to his/her radio to tune in his/her radio reading service. If the radio does not have accessible tactile controls and some sort of audio feedback and verification, then this blind or visually impaired person will be unable to use it to tune in his/her local radio reading service. Consequently, the Commission must take steps to ensure that HD Radio receivers are accessible to and usable by the largest possible number of persons, including blind and visually impaired and other disabled persons. It is our understanding that at least three Commissioners in public comments have stated that HD Radio is an interactive telecommunication service. This position is further bolstered by footnote 57 in the FCC's Further Notice of Proposed Rulemaking and Notice of Inquiry being commented upon here. The footnote states that iBiquity plans on continued development of the HD Radio system including a "Buy Button." A "Buy Button" is certainly a two-way interactive service and would seem to fall under Section 255 of the Telecommunications Act. Consequently, manufacturers would have to make their radios accessible to disabled persons where feasible. We call on the Commission to apply Section 255 of the Telecommunications Act of 1996 to HD radio receivers. It does not make sense for radio reading services to be in the radio manufacturing/distribution business in a digital world. If and when we get a digital signal, it will be a part of a more integrated system, and the "system" itself should handle its decoding and presentation. Thus blind and visually impaired persons, as well as other disabled persons, need to have access to all of the features of HD radio receivers.

Members of the International Association of Audio Information Services, IAAIS, have had conversations about accessibility with iBiquity who says that there isn't much they can do directly, they are a licensing/software company. They have provided IAAIS with introductions to a few representatives of companies who make or will make HD Radio units. With one or two exceptions, this group has shown little interest in the needs of radio reading service listeners.

Consequently, we feel that it is necessary for the Commission to apply Section 255 of the Telecommunications Act of 1996 to future radios or pass additional rules that will guarantee that HD Radio reception equipment is accessible to and usable by blind and visually impaired persons.

The growth of many radio reading services around the country has been restricted by the need to purchase expensive and poor performing radio receivers. With the creation of a new system, we have the opportunity to get radio reading service out of the specialty receiver business. However, in order to do this we must be able to use the equipment developed by consumer electronics companies. It is likely that one or more steps will be needed to tune in a radio reading service, which is carried by a HD Radio station. This could involve selecting some sort of auxiliary mode, entering in an authorization code – initially or each time the radio is used, and/or other steps. Blind and visually impaired persons are unable to use many of the functions of most consumer electronic devices today. The Commission knows this to be true because of a number of actions involving cellular telephones. With the creation of a new service, we have the opportunity to avoid these problems. However, the Federal Communications Commission must make it clear that HD Radio would be covered by Section 255 of the Telecommunications Act of 1996, or implement new rules that would guarantee accessibility to users of HD Radio equipment.

LPFM AND RADIO READING SERVICES

Another area of concern to us is interference from LPFM stations. The Mitre study of 2003 did not test the effects of a digital LPFM on an adjacent station itself, or a station carrying an analog sub-carrier. Further, there seems to be anecdotal evidence in the broadcast industry that as more and more stations broadcast HD Radio signals, noise and interference to adjacent stations seems to be on the rise. Further, several engineers who have tested HD Radio have reported to us that it even increases noise to the analog signal on their own station. As users of an already fragile service – subcarriers, this is of great concern to IAAIS members. The signals available to us, and the poor quality of the radio receivers normally available to us, do not allow for additional degradation to our transmissions. The FCC must continue, at a minimum, to provide 3rd adjacent protection to radio reading services using subcarriers, as well as providing a mechanism to resolve problems with interference.

EXCLUSIVE FREQUENCIES FOR RADIO READING SERVICES

Because of the lack of a digital home for radio reading services during the Hybrid Mode phase of HD Radio conversion, and because of the lack of any kind of guarantee of a home in the future, with an all-digital system, it may well be time for the Federal Communications Commission to consider assigning some exclusive and specific frequencies for the use of radio reading services.

One possibility, which has been suggested by some players, is paging frequencies no longer being used for that purpose in the 150 MHz range.

Please understand that our first choice would be to have space on stations using HD Radio. This would allow radio reading services to be able to get out of the business of supplying our listeners with special radio receivers. We would be in the business of providing programming, and certifying listeners to use the system. However, unless we have some access to space to put up audio streams, and radios that can be used, and afforded by our listeners, then alternatives should be considered. Paging frequencies would necessitate the manufacture and distribution of specialty radios, and would also require setting up and operating small transmitters, and locating and arranging for antenna locations. None of this is our first choice, but it is doable and may well be the price we have to pay to have frequencies that are of good quality and unambiguously our own. However, our first choice would be for the Commission to guarantee us a place in the emerging digital world. It could do so in a variety of ways, either via stations in the educational band, or by mandating some sort of priority for a radio reading service on a community-wide basis. Australia, as an example, gives reading services access to main channel frequencies. It is time for the Commission to take steps ending reading service listener's second-class citizen status. We have listened to inferior and vulnerable signals for long enough.

EAS

SSB is not in favor of sub-carrier-based radio reading services becoming a formal part of the Emergency Alert System, EAS. In our case, the expense and complication of providing service to 20 remote locations across a relatively large state, and using a limited-bandwidth satellite channel, make the task difficult if not impossible. The cost to do this could equal $100,000 or more. Further, because of the large geographic area we serve, and the number of sites that might require unique messages, the logistics of becoming a part of the system is daunting.

On the other hand, we do have listeners who tune in to the RTB for long periods of time. We feel some obligation toward them, in terms of current information. The majority of our programs are one hour in length, and our central studio is manned 19 hours a day, seven days a week. Consequently, we can present current information at least once an hour, and interrupt the entire network in extreme emergencies. We believe that this approach will balance out our obligations to our customers with the expense and logistics of serving an entire state.

CONCLUSIONS

We are at a cross roads concerning broadcasting in the United States. We are still relatively early in the process with few stations broadcasting a digital signal and even fewer radio receivers being offered or sold. This is the time to ensure that this nation's blind, visually impaired, and otherwise print-handicapped citizens have access to the full spectrum of digital services that are likely to become available in the future. This means that the Commission should take steps to extend the current guarantees to reading services using public radio stations, to the digital world. It should further guarantee that Section 255 of the Communications Act of 1996 covers HD Radio receivers in upcoming years as they become widely available. Further, it needs to encourage quick and thorough testing of Extended Hybrid Mode so that a home can be found for

reading services and other auxiliary services. Without a home, and access to commercially available radios, all of this will be for nothing. Finally, if Extended Hybrid Mode turns out to cause interference to existing stations and/or radios, the Commission should once and for all consider assigning radio reading services some exclusive frequencies, on a nationwide basis, for our own use.